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09/903,075	07/10/2001	Kemal Guler	10014768	9384
7590 09/15/2008 HEWLETT-PACKARD COMPANY Intellectual Property Administration P.O. Box 272400 Fort Collins, CO 80527-2400			EXAMINER CHANDLER, SARA M	
			ART UNIT 3693	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

09/903,075

**Applicant(s)**

GULER ET AL.

**Examiner**

SARA CHANDLER

**Art Unit**

3693

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

This Office Action is responsive to Applicant's arguments and request for reconsideration of application 09/903,075 (07/10/01) filed on 06/17/08.

### ***Claim Interpretation***

1. In determining patentability of an invention over the prior art, all claim limitations have been considered and interpreted as broadly as their terms reasonably allow. See MPEP § 2111.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. *In re Pruter*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969). See MPEP § 2111.

2. All claim limitations have been considered. Additionally, all words in the claims have been considered in judging the patentability of the claims against the prior art. See MPEP 2106 II C. The following language is interpreted as not further limiting the scope of the claimed invention. See MPEP 2106 II C.

Language in a method claim that states only the intended use or intended result, but the expression does not result in a manipulative difference in the steps of the claim. Language in a system claim that states only the intended use or intended result, but does not result in a structural difference between the claimed invention and the prior art.

In other words, if the prior art structure is capable of performing the intended use, then it meets the claim.

Claim limitations that contain statement(s) such as “*if, may, might, can could*”, as optional language. As matter of linguistic precision, optional claim elements do not narrow claim limitations, since they can always be omitted.

Claim limitations that contain statement(s) such as “*wherein, whereby*”, that fail to further define the steps or acts to be performed in method claims or the discrete physical structure required of system claims.

USPTO personnel should begin claim analysis by identifying and evaluating each claim limitation. For processes, the claim limitations will define steps or acts to be performed. For products, the claim limitations will define discrete physical structures or materials. Product claims are claims that are directed to either machines, manufactures or compositions of matter. See MPEP § 2106 II C.

The subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

- (A) statements of intended use or field of use,
- (B) “adapted to” or “adapted for” clauses,
- (C) “wherein” clauses, or
- (D) “whereby” clauses.

See MPEP § 2106 II C.

3. Independent claims are examined together, since they are not patentable distinct. If applicant expressly states on the record that two or more independent and distinct

inventions are claimed in a single application, the Examiner may require the applicant to elect an invention to which the claims will be restricted.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

**Claims 1,9 and 17** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

- Judicial Exception

Determining whether the claim falls within one of the four enumerated categories of patentable subject matter recited in 35 U.S.C. 101 (i.e., process, machine, manufacture, or composition of matter) does not end the analysis because claims directed to nothing more than abstract ideas (such as mathematical algorithms), natural phenomena, and laws of nature are not eligible for patent protection. *Diehr*, 450 U.S. at 185, 209 USPQ at 7.

The claimed invention is recited as an abstract idea and is described in a way that does not lend itself to calculation.

For example, the phrase "characteristics of said market" is abstract. Characteristics are the features or attributes that describe something but, these "characteristics" must be capable of quantifiable or measurable expression. The claimed invention does not provide a way to quantify or measure the "characteristics of said market." Thus, it is unclear how the "characteristics of said market" can be used as part of any calculation used to determine an auction format for the market.

For example, the phrases "bidding behavior" and "how bidders behave" are abstract. Behavior encompasses the subjective (e.g., good/bad) judgement and actions of humans. . Similar to "characteristics", the claimed invention is unclear regarding how "behavior" is quantified or measured; and how "behavior" can be a part of any calculation used to determine an auction format for the market.

For example, the phrase "information held privately by a bidder" is abstract. The claimed invention is unclear regarding what "information" is in the context of the bidding model. The "information" held by a bidder could relate (e.g., where to go on vacation, where to attend school etc.) but, it would seem that the only pertinent "information" is information that would impact a bidder's auction decisions.

For example, the claims recite "selecting a relevant bidding model specifying past bidding behavior as a function of information held privately by a bidder and said characteristics of said market;". Although a "relevant bidding model" is selected, there are no calculations performed by the model that is selected. Furthermore, the term "relevant" is relative and the term has not defined by the claim and the specification does not provide a standard for ascertaining the requisite degree. Thus, it is also unclear what would cause some bidding models to be "relevant" and others to be irrelevant.

For example, the phrase "estimated structure of said market" is abstract. The claim is unclear regarding what an "estimated structure" is and how it can be quantified or measured by its affect on bidders' behave. Thus, it is unclear how the "estimated

structure" can be used as part of any calculation used to determine an auction format for the market.

- Practical Application

There is no practical application of the judicial exception (i.e., abstract idea).

For claims including such excluded subject matter to be eligible for patent protection, the claim must be for a practical application on the abstract idea, law of nature, or natural phenomenon. *Diehr*, 450 U.S. at 187.

Claims 1, 9 and 17 are drawn to a method, system and computer readable medium for determining an auction format for a market and do not pertain to the transformation of an article or physical object to a different state or thing.

Claims 1,9 and 17 fails to produce a "useful, concrete and tangible result."

The result is not "concrete" because it is not predictable or repeatable.

The claimed invention suggests that it can predict "a first bidding behavior", "first outcome", "second bidding behavior" and "second outcome." As noted supra however, each of these terms are directly, or indirectly dependent upon variables for which no standard is given for how they are quantified or measured; and rely on variables encompassing the subjective judgement and actions of humans.

The objective of the claimed invention as recited in the preamble (i.e., "determining an auction format") is recited merely as an intended use/result in the claim invention. The body of the claim recites, "evaluating said first outcome of said market and at least said second outcome of said market to determine said auction format." There is no guarantee that determining the auction format will actually occur as a result.

Since the claim is not specific, any result achieved is not repeatable. In other words, a first user could evaluate a first outcome and second outcome and determine that auction format (A) is preferred for the market; a second user could evaluate the same first outcome and second outcome and determine that auction format (A) is not preferred; and a third user could evaluate the same first outcome and second outcome and determine that that no decision can be made regarding a preferred auction format. In other words, determining the auction format is arbitrary because no standard is given for why and how a determination is made that one auction format is preferred above all others.

The result is not "tangible" because it is abstract and without real world application. As noted supra, the meaning of claim terms is abstract and subjective and the claimed invention has not provided a standard for their use. Also, as noted supra, there is no guarantee that the process to achieve the stated objective of determining said auction format.

- Process Claim

The method of claim 1 is not tied to any machine such as a computer system. The evaluation of the first and second outcome of the market is arbitrary. All the steps in the process for determining the auction format for said market can be done by a human operator. Lastly, since the claim invention does not require any quantifiable and measurable standards for its calculation any potential result is vulnerable to the subjective judgement of the human operator and is thus not predictable or repeatable.

It is thus clear that the present statute does not allow patents to be issued on particular business systems - such as a particular type of arbitration - that



depend entirely on the use of mental processes. In other words, the patent statute does not allow patents on particular systems that depend for their operation on human intelligence alone, a field of endeavor that both the framers and Congress intended to be beyond the reach of patentable subject matter. Thus, it is established that the application of human intelligence to the solution of practical problems is not in and of itself patentable. *Comiskey*, 499 F.3d 1365.

However, mental processes—or processes of human thinking – standing alone are not patentable even if they have practical application. The Supreme Court has stated that “[p]henomena of nature, though just discovered, mental processes, and abstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 1-24** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

#### **Re Claims 1,9 and 17:**

The claimed invention recites:

selecting a relevant bidding model that specifies past bidding behavior as a function of information held privately by a bidder, that is determined based at least in part on said historical auctions data, and said characteristics of said market based on segments of said historical auctions related to a specified item;

Applicants specification recites:

A bidding model specifies a bidding behavior pattern. It is a function of auction characteristics or procedure of the corresponding auction. It is also a function of the market structure of the auction. (Applicant's Specification, pg. 18, line 20+ - col. 19, line 1)

Which identifies the required elements used for selecting the bidding model?

Dependent claims are also rejected based on the same rationale as the claims from which they depend.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 1-24** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**Re Claims 1,9 and 17:** The meaning of characteristics of said market is indefinite. What are the characteristics of the market? E.g., Could just saying the market is an auction be sufficient. If it is something more, what is it?

Re Claims 1,9 and 17: The meaning of bidding model is indefinite. What is the bidding model? What elements are required to select it?

Re Claims 1,9 and 17: The meaning of estimated structure is indefinite. How is it selected? How does the estimated structure tie in with the other claim limitations? E.g., The specification says that a collection of variables are required to estimate the structure of the market however this is never addressed in the claims.

"Market structure" is intended to mean a collection of variables that describe the factors that may affect the bidding behavior of bidders. A market structure is characterized by two sets of variables: a first set of variables collectively describes

the auction "environment," and a second set of variables collectively describes the auction "mechanism." (Applicant's Specification, pg. 25, lines 5-10)

Re 1,9 and 17: The meaning of bidding behavior is indefinite. How can specifying bidding behavior be a requirement of the bidding model (as claimed)? Yet the bidding model is used to predict bidding behavior (as claimed)? Which comes first? Also, are specified and predicted bidding behaviors different in some way?

Re 1,9 and 17: What are the outcomes to be expected? How are they used to make a determination? Are they evaluated from a bidder or seller perspective? E.g., Are you looking for the highest or lowest price? Once you have this information, how do you know what is preferred?

The term "relevant bidding model" in claims 1,9 and 17 is a relative term which renders the claim indefinite. The term "relevant" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

In summation, claims 1,9 and 17 indefinite because: a) The scope of the claims are unclear. Terms such as "structure", "characteristics of said market" are broad, abstract concepts. b) There is insufficient correlation or interrelationship among the steps. c) There is no requirement of the claim to produce a result (i.e., the claim has not outputted a result). d) The evaluating step is unclear. How does the evaluating occur (i.e., evaluating mean, variance etc.)? e) The claims recite the limitation "relevant bidding model" it is unclear what is meant by relevant.

**Re Claims 9-16:** The claim is indefinite because the preamble recites a system claim but the structural components of the system used to carry out the claimed invention are unclear. Are the "selectors" software or hardware? The specification refers to "modules" which is often used to refer to software and software per se is not patent eligible subject matter.

The following suggested language would indicate that the system is programmed to do those things.

Suggested language:

a processor interconnected with said bus, wherein said processor is programmed to execute a method for determining an auction format for a market, said method comprising the steps of:

**Re Claims 2, 10 and 18:** The claim recites the limitation "first user input." Who is the user (i.e., bidder, seller)? Does it matter?

The claim recites the limitation "auction characteristics data." How is this different than the characteristics of said market?

The term "similar items" in claim 2 is a relative term which renders the claim indefinite. The term "similar" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

**Re Claims 3, 11 and 19:** The claim recites the limitation "auction characteristics data." How is this different than the characteristics of said market?

**Re Claims 4, 12 and 20:** The claim recites the limitation "unobservable variables." What is this? Variables of what?

The claim recites the limitation "observable bids." What is this? Are these related to the historical bids or are they something different?

The claim recites the limitation "estimated latent structure of said market" What is this? How is it estimated? How is it different than the estimated structure?

**Re Claims 5,13 and 21:** The claim recites "wherein said relevant bidding model has embedded an unknown structure, and wherein said predicting of said first bidding behavior step comprises the steps of:" Is the bidding model a function of the unknown structure also? How is the unknown structure different than the estimated latent structure and the estimated structure?

**Re Claims 6,14 and 22:** The claim recites the limitation "second user input." Who is the user (i.e., bidder, seller)? Does it matter?

The claim recites the limitation "an evaluation criterion." What is this?

The claim recites the limitation "constraint." What is this?

**Re Claims 7,15 and 23:** The claim recites the limitation "third user input." Who is the user (i.e., bidder, seller)? Does it matter?

The claim recites the limitation "descriptive statistics." What is this? How is it descriptive?

Should "said plurality" be -- said plurality of candidate auction formats --?

Dependent claims are further rejected based on the same rationale as the claims from which they depend.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1,3,4,6,7,8,9,11,12,14,15,16,17,19,20,22,23 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Seymour, US Pat. No. 6,871,190.

**Re Claims 1,9 and 17:** Seymour discloses a method/system/computer readable medium for determining an auction format for a market (See also, Seymour, Figs. 2 and 3), said method/system/computer readable medium comprising the steps of:

selecting characteristics of said market based at least in part on stored historical bids data that includes data for historical auctions performed in the past for a plurality of bidders (See Seymour, Col. 5, lines 31-36);

selecting a relevant bidding model specifying bidding behavior that utilizes information held privately by a bidder and said characteristics of said market (See Seymour, Col. 4, lines 49-51, "A series of bidding and selling strategies are then generated for each type

of auction type"; col. 4, line 30+ - col. 5, line 15; col. 6, lines 1-12; col. 6, lines 1-12; col. 3, lines 3-51; col. 4, lines 49-51; col. 6, line 56 - col. 7, line 13);

selecting at least a first estimated structure of said market, which describes at least a first factor that affects how bidders behave, and a second estimated structure of said market, which describes a second factor that affects how bidders behave, at least in part by inverting said relevant bidding model (See Seymour, Col.4, lines 30-49 and Col. 5, lines 11-15);

predicting a first bidding behavior utilizing said first estimated structure of said market, said characteristics of said market and said relevant bidding model (See Seymour, Col. 5, lines 7-15, The recommendations to the seller and/or bidder regarding how to bid and/or sell is based on a prediction of the bidding behavior of the various bidders);

predicting a first outcome of said market based on said first bidding behavior;

predicting at least a second bidding behavior utilizing at least said second estimated structure of said market, said characteristics of said market and said relevant bidding model (See Seymour, Col. 6, lines 56-59, "The input data is transmitted to the processing unit of the seller site terminal and the optimum type of auction for sale of such merchandise is determined (e.g., Sealed bid, Vickery, English or Dutch)." In order to determine the optimum auction format the data regarding the auction including the seller, bidders and merchandise is used to evaluate and compare what the

predicted outcome would be for each auction format (e.g. Sealed bid, Vickery, English or Dutch);

predicting a second outcome of said market based on at least said second bidding behavior prediction (See Seymour, Col. 6, lines 56-59, "The input data is transmitted to the processing unit of the seller site terminal and the optimum type of auction for sale of such merchandise is determined (e.g., Sealed bid, Vickery, English or Dutch).") In order to determine the optimum auction format the data regarding the auction including the seller, bidders and merchandise is used to evaluate and compare what the predicted outcome would be for each auction format (e.g. Sealed bid, Vickery, English or Dutch); and

determining said auction format for said market by evaluating said first outcome of said market and at least said second outcome of said market (See Seymour, Col. 6, lines 56-59, "The input data is transmitted to the processing unit of the seller site terminal and the optimum type of auction for sale of such merchandise is determined (e.g., Sealed bid, Vickery, English or Dutch).") In order to determine the optimum auction format the data regarding the auction including the seller, bidders and merchandise is used to evaluate and compare what the predicted outcome would be for each auction format (e.g. Sealed bid, Vickery, English or Dutch).

Seymour fails to explicitly disclose selecting a relevant bidding model that specifies past bidding behavior as a function of information held privately by a bidder, that is determined based at least in part on said historical auctions data, and said



characteristics of said market based on segments of said historical auctions related to a specified item.

Official Notice is taken that it is old and well-known that information held by a buyer (e.g., amount they are willing to pay, risk tolerance etc.) coupled with their understanding of existing market conditions (e.g., rules, demand etc.) influences behavior. For example, investment decisions, auctions, purchasing decisions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Seymour to provide selecting a relevant bidding model that specifies past bidding behavior as a function of information held privately by a bidder, that is determined based at least in part on said historical auctions data, and said characteristics of said market based on segments of said historical auctions related to a specified item.

One would have been motivated to make the method/system/computer readable medium adaptable to changing auction environments.

The claimed invention applies a known technique to a known device (method, or product) ready for improvement to yield predictable results. Thus, the claimed subject matter likely would have been obvious under KSR. *KSR*, 127 S.Ct. at 1741, 82 USPQ2d at 1396.

**Re Claims 3,11 and 19:** Seymour further discloses the method/system/computer readable medium, wherein said selecting of said relevant bidding model step comprises the steps of:

receiving said auction characteristics data(See Seymour, Col. 5, lines 29-36);

accessing a database (See Seymour, Col. 5, lines 21-25, The patent discusses data gathering exercises. A database is being accessed to retrieve the data);

retrieving from said database said relevant bidding model (See Seymour, Col. 4, lines 49-51, "A series of bidding and selling strategies are then generated for each type of auction type"), wherein said relevant bidding model is selected based on a corresponding relevance of said auction characteristics data (See Seymour, Col. 5, lines 11-15, Input data is processed and used to determine the optimum values for the reserve bid price and for the starting bid price); and

outputting said relevant bidding model (See Seymour, Col. 6, lines 56-65, The optimum values for the reserve bid price and for the starting bid price are displayed for the seller).

**Re Claims 4, 12 and 20:** Seymour further discloses the method/system/computer readable medium, wherein said selecting of said first estimated structure of said market step comprises the steps of: receiving said relevant bidding model (See Seymour, Col. 4, lines 49-51, "A series of bidding and selling strategies are then generated for each type of auction type"); receiving said bids data (See Seymour, Col. 5, lines 21-25, The patent discusses data gathering exercises and it can be inferred that a data base is accessed to retrieve the data).

Seymour fails to explicitly disclose a method wherein said estimating a structure of said market step comprises the steps of: expressing unobservable variables in terms of observable bids, wherein said unobservable variables are expressed in terms of

observable bids by inverting said bid model; transforming said bids data to a sample of inverted bids, wherein said bids data are transformed by inverting said bid model; estimating an estimated latent structure of said market, wherein said sample of inverted bids receives application of statistical density estimation techniques to obtain said estimated structure; and outputting said estimated structure. Official Notice is taken however, that: to express unobservable variables in terms of observable variables; to create a sample of the data; to use the sample to generate a statistical distribution of the sample data; to make estimates or assumptions about the market; and to report upon or generate an output of the results is old and well-known. It is common practice in fields such as mathematics, statistics and economics to use these methodologies for the purpose of using historical data, reasonable assumptions, etc. to make predictions or estimations about the future (e.g., economic predictions, research studies). Thus, it would have been obvious to one of ordinary skill in the art to modify the teachings of Seymour in light of the Official Notice for the purpose of estimating the structure of said market based on the historical data on record.

**Re Claims 6,14 and 22:** Seymour further discloses the method/system/computer readable medium, wherein said predicting said first outcome of said market step comprises the steps of:

receiving a second user input, wherein said second user input comprises the step of (See Seymour, Col. 6, lines 56-59): an evaluation criterion (See Seymour, Col. 4, line 67, Col. 1-2, Col. 6, lines 56-59, From the language of the patent the evaluation criteria used to determined the optimum type of auction is based on an evaluation of the

profit generated or loss incurred); a candidate auction format (See Seymour, Col. 6, lines 56-59); and a constraint (See Seymour, Col. 6, lines 56-59, The mention of "strategy parameters" is interpreted to mean that there are constraints placed);

receiving said first estimated structure of said market (See Seymour, Col. 4, lines 30-49 and Col. 5, lines 11-15);

receiving said first bidding behavior prediction for said candidate auction format, wherein said first bidding behavior prediction further comprises a prediction under said constraint (See Seymour, Col. 5, lines 7-15, The recommendations to the seller and/or bidder regarding how to bid and/or sell is based on a prediction of the bidding behavior of the various bidders);

obtaining a value of said evaluation criterion, wherein said value is based on said first estimated structure of said market, said first bidding behavior prediction, said candidate auction format, and said constraint, wherein said value comprising said first outcome of said market (Seymour, Col. 4, line 67; Col. 5, lines 1-2 and 11-15; Col. 6, lines 56-59, There must be a value for the evaluation criterion (e.g., profit generated or loss incurred) in order to compare the different selling strategies. Further, this value is able to change depending on specific data inputs which influence the estimated structure, bidding behavior prediction, candidate auction format and said constraint);  
and

outputting said value ((Seymour, Col. 6, lines 63-67, discussion of a display screen and customer confirmation).

**Re Claims 7,15 and 23:** Seymour further discloses the method/system/computer readable medium, wherein said evaluating of said first outcome and alt least said second outcome of said market of said market step comprises the steps of:

receiving a third user input, wherein said third user input comprises a plurality of candidate auction formats (See Seymour, Col. 6, lines 56-59);

Seymour fails to disclose a method wherein said evaluating said first outcome of said market step comprises the steps of: receiving a predicted outcome for each of said candidate auction format; calculating descriptive statistics for each of said candidate auction format, wherein said descriptive statistics comprise a mean and a variance; ranking each of said candidate auction format with respect to said calculated mean and generating corresponding rankings for said plurality of candidate auction formats; and outputting said descriptive statistics and said rankings. Official Notice is taken that receiving a predicted outcome for different scenarios; calculating statistics for each scenario (e.g., mean, variance); ranking scenarios in ascending or descending order in regards to which is the best option; and reporting upon or generating an output of the results is old and well known. It is common practice is fields such as mathematics, statistics and economics to use these methodologies for the purpose of comparison and decision-making (e.g., product purchase decisions; evaluating business opportunities etc.). Thus, it would have been obvious to one of ordinary skill in the art to modify the teachings of Seymour in view of the Official Notice for the purpose of evaluating an

auction format, comparing different auction formats and ultimately making a decision about the optimal auction format.

**Re Claims 8,16 and 24:** Seymour further discloses a method/system/computer readable medium, wherein said evaluating said first outcome of said market and at least said second outcome of said market step comprises the steps of:

selecting a best auction format, wherein said best auction format comprises the candidate auction format within said plurality of candidate auction formats having the highest of said rankings (See Seymour, Col. 6, lines 56-59); and

outputting said best auction format (See Seymour, Col. 6, lines 56-59 and Col. 6, lines 63-65. The optimum auction format is determined and displayed on the screen for the seller).

Thus, it would have been obvious to one of ordinary skill in the art to modify the teachings of Seymour in view of the Official Notice for the purpose of evaluating an auction format, comparing different auction formats and ultimately making a decision about the optimal auction format.

**Claims 2,5,10,13,18 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Seymour, U.S. Patent No. 6,871,190 in view of Shoham, U.S. Patent No. 6,285,989.

**Re Claims 2,10 and 18:** Seymour further discloses the method/system/computer readable medium as recited in Claim 1, wherein said selecting of said characteristics of said market step comprises the steps of:

receiving a first user input, wherein said first user input comprises information identifying an item to be auctioned (See Seymour, Col. 6, lines 42-50);

accessing a database (See Seymour, Col. 5, lines 21-25, The patent discusses data gathering exercises. A database is being accessed to retrieve the data); and

retrieving from said database auction characteristics data (See Seymour, Col. 5, lines 29-36),

Seymour fails to explicitly disclose wherein said selecting characteristics of said market step comprises the steps of: retrieving from said database historical bids data; wherein said auction characteristics data comprise information relating to historical auctions of similar items; and outputting said auction characteristics data.

Shoham discloses wherein said selecting characteristics of said market step comprises the steps of:

retrieving from said database historical bids data (See Shoham, Col.14, lines 25-32, There is a discussion regarding the retrieval of statistics and results of auctions; and time stamps for the events record of historical data);

retrieving from said database auction characteristics data, wherein said auction characteristics data comprise information relating to historical auctions of similar items (See Shoham, Col. 14, lines 25-32);

outputting said bids data (See Shoham, Col. 14, lines 25-32); and

outputting said auction characteristics data. (See Shoham, Col. 14, lines 25-32).

It would have been obvious to one of ordinary skill in the art to modify the teachings of Seymour to include the teachings of Shoham. As Shoham suggests

retrieving data (e.g., historical bids data, auction characteristics data) and outputting data (e.g., bids data, auction characteristics data) is necessary for analysis, auditing and publication. Also, as Shoham suggests the ability to retrieve and output data is beneficial when modifying the software to provide relevant auction formats in different situations. The motivation would have been to continuously improve and adapt the software.

**Re Claims 5,13 and 21:** Seymour further discloses the method/system/computer readable medium, wherein said predicting a bidding behavior step comprises the step of:

outputting a prediction of bidding behavior (See Seymour, Col. 5, lines 7-15, The patent is interpreted broadly. The recommendations to the seller and/or bidder regarding how to bid and/or sell is based on a prediction of the bidding behavior of the various bidders).

Seymour fails to explicitly disclose wherein said bidding model has embedded an unknown structure; wherein said predicting a bidding behavior step comprises the steps of: receiving said estimated structure; receiving said relevant bidding model; and substituting said unknown structure with said estimated structure of said makret.

Shoham discloses wherein said bidding model has embedded an unknown structure (See Shoham, Col. 13, lines 48-50, The factors (e.g., rules, constraints) associated with each bidding model allow the specific structure of the market to be changed or augmented. The estimated structure applied generally to each bidding model can be adapted to the unknown structure of a particular auction); and



wherein said predicting a bidding behavior step comprises the steps of:

receiving said estimated structure of said market(See Shoham, Col. 13, lines 1-6 and lines 32-45 and 38-42. Shoham is interpreted as disclosing that bidding models differ in terms of both the services; and the market and system conditions required. Factors (e.g., rules,constraints) such as minimum bids, bidding increments, length of rounds are relevant in creating an appropriate structure for the different bidding models). Thus, for each estimated structure received there is relevant bidding model that is also received);

receiving said relevant bidding model (See Shoham, Col. 13, lines 1-6 and lines 32-45 and 38-42. Shoham is interpreted as disclosing that bidding models differ in terms of both the services; and the market and system conditions required. Factors (e.g., rules,constraints) such as minimum bids, bidding increments, length of rounds are relevant in creating an appropriate structure for the different bidding models). Thus, for each estimated structure received there is relevant bidding model that is also received);

and substituting said unknown structure with said estimated structure of said market (See Shoham, Col. 13, lines 48-50, The factors (e.g., rules, constraints) associated with each bidding model allow the specific structure of the market to be changed or augmented. The estimated structure applied generally to each bidding model can be adapted to the unknown structure of a particular auction).

It would have been obvious to one of ordinary skill in the art to modify the teachings of Seymour to include the teaching of Shoham because Shoham teaches a specific way to implement the predicting a bidding behavior step already introduced in

Seymour. The motivation would have been to provide sellers and bidders with predictions regarding the bids likely to occur so as to aid their selection of the type of auction format to engage in different market situations.

### ***Response to Arguments***

#### **Double Patenting**

Withdrawn in light of applicant's terminal disclaimer.

#### **101**

Applicant's arguments have been fully considered but they are not persuasive.  
See discussion supra.

#### **112, ¶ 1**

Applicant's arguments have been fully considered but they are not persuasive.

The claimed invention says the relevant bidding model specifies bidding behavior as a function of (a) information held privately by a bidder and (b) characteristics of the market. The specification says the bidding model specifying a bidding behavior is a function of (a) the characteristics of the auction and (b) market structure of the auction. The specification does not support this limitation of the invention as claimed because the requirements of the relevant bidding model that specifies past bidding behavior are different. See citation supra.

#### **112, ¶ 2**

Applicant's arguments have been fully considered but they are not persuasive.  
See discussion supra.

#### **103**

Applicant's arguments have been fully considered but they are not persuasive.

Applicant argues, Seymour fails to disclose or teaches away from selecting a relevant bidding model that specifies past bidding behavior as a function of information held privately by a bidder, that is determined based at least in part on said historical auctions data, and said characteristics of said market based on segments of said historical auctions related to a specified item.

Although not explicitly stated, the bidding strategy in Seymour (i.e., bidding model) makes selecting a bidding behavior as a function of information held privately by a bidder and said characteristics of said market obvious.

Seymour discloses a bidding model (Seymour, Col. 4, lines 49-51).

In applicant's disclosure the relevance of information, particularly private information, is discussed at various times (See Disclosure, pg. 13, lines 20- pg. 14, line 4; pg. 16, lines 19+ -pg. 17, line 10; pg. 24, lines 18+ - pg. 23, line 3). On, pg. 20 of the disclosure applicant discloses that consideration is made for the distribution of bidders' private information in the decision-making regarding the auctions. Seymour, similarly considers the distribution of bidders' private information by estimating the minimum, maximum value and valuation range bidders' will likely place on the auctioned items (Seymour, col. 4, line 30+ - col. 5, line 15). On pg.24 of the disclosure applicant provides, as an example of private information, a bidder's willingness to pay for the auction items. Seymour describes a bidding strategy for a bidder that requires data input from the bidder (Seymour, col. 4, lines 1-10). Seymour goes on to describe how the data input includes the price the bidder is willing to pay (Seymour, col. 6, lines 1-12);

Applicant's disclosure discusses the characteristics of the market (See Disclosure, pg. 24, lines 12-16; pg. 25, lines 11-15; pg. 26, lines 17-20). The market is described as comprising two components: market environment (e.g., characteristics of auctioned item see pg. 25 of Disclosure) and characteristics of the market mechanism (e.g., English, Dutch, Vickrey etc. pg. 26 of Disclosure). Seymour also provides for characteristics of the auctioned item (Seymour, pg. 6, lines 1-12) and the auction mechanism (Seymour, col. 3, lines 3-51; col. 4, lines 49-51; col. 6, line 56 - col. 7, line 13).

Although the private information and characteristics of the market are not explicitly discussed as being a function of the bidding behavior. It is old and well-known that information held by a buyer (e.g., amount they are willing to pay, risk tolerance etc.) coupled with their understanding of existing market conditions (e.g., rules, demand etc.) influences behavior. For example, investment decisions, auctions, purchasing decisions.

Thus, Seymour makes obvious a bidding model (i.e., bidding strategy) specifying bidding behavior as a function of information held privately by a bidder and said characteristics of said market.

Applicant argues, Seymour fails to disclose predicting a bidding behavior:

The claimed invention is not limited to predicting the behavior of an individual bidder as suggested in pg. 19 of applicant's arguments (6/16/06). The claimed invention states "predicting a bidding behavior" which is broad enough to cover the bidding behavior of all the various bidders. The recommendations to the seller and/or

bidder regarding how to bid and/or sell is based on a prediction of the bidding behavior of the various bidders.

Applicant argues, Seymour fails to disclose predicting a first outcome of said market; and evaluating said first outcome of said market.

Applicant's disclosure describes the interrelationship between the bidding behavior, auction format and outcome (See Disclosure, pg. 15, lines 5-17). Similarly, in order to determine the optimum auction format the data regarding the auction including the seller, bidders and merchandise is used to evaluate and compare what the predicted outcome would be for each auction format (e.g. Sealed bid, Vickery, English or Dutch) (Seymour, Col. 6, lines 56-59).

Applicant argues, the prior art teaches away.

[A] reference will teach away if it suggests that the line of development flowing from the reference's disclosures is unlikely to be productive of the result sought by the applicant. *In re Gurley*, 31 USPQ2d 1130 (Fed. Cir. 1994).

Applicant argues, long felt need

Applicant has a general allegation of long felt need and that claimed subject matter solved a problem that was long standing in the art. It is noted however, that an affidavit or declaration under 37 CFR 1.132 has not been submitted. There is no showing that others of ordinary skill in the art were working on the problem and if so, for how long. In addition, there is no evidence that if persons skilled in the art who were presumably working on the problem knew of the teachings of the above cited references, they would still be unable to solve the problem. See MPEP § 716.04.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARA CHANDLER whose telephone number is (571)272-1186. The examiner can normally be reached on 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Kramer can be reached on 571-272-6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SMC

/JAGDISH N PATEL/  
Primary Examiner, Art Unit 3693